

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:)
)
 FINKL, Charles W.)
 UNDERYS, Algirdas A.) **Group Art Unit:**
) **(To be assigned)**
)
 Application No.:)
)
 (To be assigned))
)
 Filing Date: 01/25/02 (estimated)) **Primary Examiner**
) **(To be assigned)**
)
 Entitled: METHOD AND APPARATUS)
 FOR PREVENTING CRACKING)
 OF THE SHANK JUNCTION OF)
 DIE BLOCKS)

PRELIMINARY AMENDMENT

Please amend the above application as follows:

IN THE TITLE:

Please change the title of the application to read:

Method for Softening a Selected
Portion of a Steel Object by Heating

IN THE SPECIFICATION TEXT:

page 1, after the heading and before the first line of text, please insert the following paragraph:

"This application is a division of application serial number 09/160,895 filed September 25, 1998, which application in turn is a continuation-in-part of application serial number

08/582,373 filed January 11, 1996."

page 1, line 11, after "large thick body", insert -or working portion-,

page 3, line 17 after "tempered", insert -(which, as those skilled in the art will appreciate, connotes heating and cooling)-

line 13, after "shank", insert -so formed out of the mounting portion of the die block-,

page 6, line 16, after "preventing", insert -, or at least reducing the incidence of;-,

page 7, line 18, delete "draw"; insert -temper-; insert -junction- after "shank body",

page 9, line 14, delete "generally" second occurrence,

page 10, line 20, delete ",3 and 5"; insert -and 3-,

page 11, line 12, delete "generally",

page 12, line 1, delete "end",

line 4, delete "32"; insert -23-,

line 5, delete "rear"; insert -left-,

line 7, after "hardened"; insert -rectangular-,

line 9, after "54"; insert -all sides and edges being planar,-,

line 18, after "62"; insert -of block 60-,

line 20, delete "or"; insert -of-,

page 13, line 9, after "shank", insert -21-,

line 11, delete "23"; insert -70-,

line 12, after "72", delete "or"; insert -of-,

line 13, before "left", insert -vertical dimension of-,

line 14, after "sides", insert -73, 74 may be, for example,-,

line 15, delete the period "."; insert -;-,

delete the balance of the line; i.e.: "The ... a",

line 16, delete,

line 17, delete "inches";

change "The" to -the- and insert -indeed- before "the",

delete "75"; insert -73-,

delete "76"; insert -74-,

page 14, line 9, after "operation" and before the comma ",", insert -as shown in
Figures 2 and 3,-,

line 9, insert -,- after "energized",

line 12, delete "37-41"; insert -32, 37, 39, 40 and 41.-,

line 13, change "Power Source" to -power source-,

line 15, after "1130°F" and before the comma ",", insert -in the surface 55 of
the block 50-,

line 16, delete "draw"; insert -temper-, insert -eventual-before "shank",

after "area" and before the comma ",", insert -shown in Figure 4-,

lines 17-19; delete the sentence beginning "It will be ... martensite",

page 15, line 8, delete "10"; insert -9-,

page 16, line 4, delete "sample"; insert -workpiece-,

line 12, after "surface", insert -or first portion-,
page 17, line 5, delete "showing"; insert -shown-,
delete "or"; insert -S0-,
line 6, delete "by"; insert -to-.
line 13 after "52,000W", insert -(or, in other words, over 200 KW/m²)-,
page 19, line 17, after "soften", insert -a first portion of-,
line 17, after "depth" and before the ".", insert -relative to a second portion-.

IN THE CLAIMS:

Please cancel without prejudice claims 1-17 and insert in lieu thereof the following claims:

33. In a method of softening a portion only of an object which is responsive to heat treatment, the steps of
- providing an object having a working portion and a mounting portion,
- the mounting portion having a depth sufficient to subsequently form mechanical connecting means therein so as to enable said object to be mounted for work operation, and
- treating said mounting portion by subjecting it to an electric source of heat until a predetermined temperature therein is obtained, and
- cooling said mounting portion,
- said temperature being a temperature at which the hardness, in the final object, of the mounting portion will be less than the hardness of the working portion.

34. The method of claim 33 further characterized in that the object is composed of steel.
35. The method of claim 34 further characterized in that the depth of the mounting portion is about two inches.
36. The method of claim 33 further characterized in that the electric source of heat is infrared radiation.
37. The method of claim 36 further characterized in that the object is composed of steel.
38. The method of claim 37 further characterized in that the depth of the mounting portion is about two inches.
39. The method of claim 38 further characterized in that the intensity of the infrared radiation reaches at least about 200 kW/m².
40. In a method of softening a portion only of a steel workpiece which is responsive to heat treatment, the steps of
- providing a steel workpiece having a first portion and a second portion,
- treating said first portion by subjecting it to an electric source of heat until a predetermined temperature capable of softening said first portion is reached,
- cooling said first portion following heating to complete tempering said first portion
- whereby the hardness in the first portion, following heating and cooling thereof, will be softer than the hardness in the second portion thereof.
41. The method of claim 40 further characterized in that

the electric source of heat is induction heating.

42. The method of claim 40 further characterized in that

the electric source of heat is infrared radiation.

43. The method of claim 42 further characterized in that

the first portion is a mounting portion and the second portion is a working portion.

IN THE DRAWING:

Please substitute the six sheets attached to the accompanying 'LETTER TO THE DRAFTSMAN SUBMITTING FORMAL DRAWING' containing nine Figures for the informal drawing submitted herewith.

REMARKS

To expedite prosecution we have cancelled the original method claims and submitted a new set for examination.

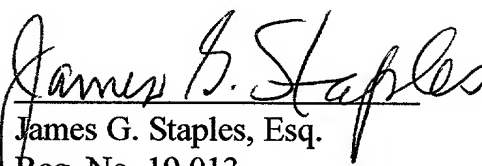
Applicant reserves the right to submit apparatus claims. We have not retained any in this divisional application in order to expedite prosecution by eliminating an Office Action requiring restriction.

We have begun the numbering of the claims with 33 since the number of the last claim

submitted in parent application no. 09/160,895 was 32.

Respectfully submitted,

A. FINKL & SONS CO.

by: 
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LETTER TO DRAFTSMAN
SUBMITTING FORMAL DRAWING

Please substitute the attached formal drawing consisting of six sheets containing nine Figures for the informal drawing filed with this divisional application.

This Letter to Draftsman Submitting Formal Drawing, including the above referred to six sheets, is being submitted in duplicate for the convenience of the Examiner.

Respectfully submitted,


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